



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,676	12/06/2001	Ramesh Subramanian	01P23114US	8645

7590 09/17/2003

Siemens Corporation  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

[REDACTED] EXAMINER

MARCANTONI, PAUL D

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1755

DATE MAILED: 09/17/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/010,676	SUBRAMANIAN, RAMESH	
	Examiner Paul Marcantoni	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 December 2001.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-14 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 06 December 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .	6) <input type="checkbox"/> Other: _____ .

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 102(a and b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maloney '200B1, Stecura, Jacobsen, Watanabe et al. '138, Pitts '500, Kondo et al. '330, or DE 4302167 (Jaeckel et al.-abstract only).

Maloney teaches a zirconia coating comprising 5-60 mol% galdolinia and the rest zirconia which also leads to a cubic crystal structure and would appear to anticipate the instant invention (see claims).

Stecura '033 teaches a composition comprising zirconia with cubic phase that contains up to 25 wt% ytterbia. Increasing amounts of ytterbia decrease the number of thermal cycles. This would also thus appear to anticipate the instant invention (see cover of patent referring to the Figure of Cycles to Failure vs. ytterbia concentration).

Art Unit: 1755

Jacobsen '071 teaches a cubic zirconia phase that is maintained by adding from 1 to 15 wt% of a stabilizer such as yttrium oxide and would appear to anticipate the instant invention. Note that applicants' independent claims contain no amounts and at the very least this reference reads upon these claims. Further, the fact that salts of yttrium are used is of no matter because upon combustion the salts become yttrium oxide so the end result is exactly the same. Jacobsen '071 further teaches that it is old and known in the art that if one of ordinary skill in the art wants a cubic phase, it is suggested to add higher concentrations of stabilizer. Thus, applicants addition of high amounts of stabilizer to maintain the cubic phase is not a new concept.

Watanabe et al. '138 teach a cubic phase zirconia comprising a stabilizer such as yttria and ytterbia (col.4, lines 20-25). Watanabe further teaches that the cubic system is formed at "16 mol% or more" which meets the applicants' claim limitations of at least 30 wt% of stabilizer (see col.4, lines 29-34).

Pitts teaches cubic zirconia with a stabilizer that would appear to be within the applicants claim range.

Kondo et al. '330 teach cubic phase zirconia comprising 0.1 to 40 wt% stabilizer such as yttria, galdolinia, or ytterbia (see col.3, lines 5-15) thus anticipating the instant invention.

DE 4302167 (Jaeckel et al.) teaches cubic zirconia used for forming thermally insulating coatings containing 0.5 to 25 wt% yttria as stabilizer thus anticipating the instant invention (see abstract).

Subramanian (EP 1318215) teaches that 25% stabilizer is the least amount needed to "give the peak ionic condition in the oxide matrix for cubic phase". This would appear to contradict the applicants' instant specification that requires at least 30 wt% stabilizer such as yttria. (See abstract).

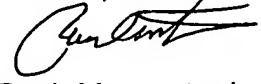
Note that even if the references above do not anticipate, overlapping ranges of amounts have been held to be *prima facie* obvious to one of ordinary skill in the art.

Claims 1-14 are rejected under 35 U.S.C. 112, first and second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention and lacking an enabling disclosure.

Applicants' independent claims contain no amounts that lead to the condition of a peak ionic conductivity in the matrix. It would appear that the specification requires that an amount of at least 30 wt% stabilizer is required in all cases and it would appear necessary for applicants to incorporate this limitation into all independent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Paul Marcantoni  
Primary Examiner  
Art Unit 1755